

**INTEGRATED OPTICAL UNIT  
FOR USE WITH MINIATURE OPTICAL DISCS**

**ABSTRACT OF THE DISCLOSURE**

[0028] Light from a laser diode is directed by mirrors on angled surfaces of an optical unit through a first lens at an optical disc. Light returns from the disc on a parallel path through a second lens and is directed at a photodetector. A semiconductor device controls the operation of the laser diode and receives signals from the photodetector for processing. The optical unit is formed from one or two glass elements cut from a larger glass wafer or wafers using photolithographic techniques. The mirrors are formed by thin films deposited on angled glass surfaces formed by selective plasma etching of the wafers. At least one mirror is partially reflective and is formed by depositing a thin film of titanium nitride.

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